PRESERVED

App. F. IX-4

1939-3.

File No. 31-39

Previous References

C.V 24-31 (1-3) (C.V)

Serial Nos. 1-3

Later References

PRESERVED

General and Revenue Secretariat.

Serial Nos. Three

Part B for Jany 39

SUBJECT.

Report on the working of the Sports Institute for the year 1938-39

N 3865-6 81. 9. 1133

Sir of Agri

Senior Surgeon

Perusal

Hy

1165

[App. F. III—2

General and Revenue Secretariat | C.U File No. 31 of 1932

Serial No.	
1	From the Offg Director no Per Lab/32-33 dated 26/9/32 Sub: Annual report of the Serum Institute for the year 1931-32 With his subordinate remarks. To the Administration Report Section for favour of lodging a copy of the report and returning the file 28/9/32 28/9/32 The case of the Report is taken up. The file is submitted to the Hon'ble Minister for [illegible] 14/10/32 13/10 Draft letter is submitted for approval 14/10/32 13/10
2	To The Superintendent Govt. Printing No D.1625 & 16.10.32 Forwards a copy of the report with a request that 50 copies thereof may be got printed and kept ready for being bound with the proof received to-day later on A draft reply is submitted 17/10/32 Put up typed draft as revised please. 21/12/32

TYPING SECTION 13 OCT. 1932 GAL & REV SECT.

NOTE—Contn. Sheet.

Administration Report of the Serum Institute

1165

File No. 31 of 1932

General and Revenue Secretariat

A typed revised draft is submitted.

29/12/32

Draft review is submitted for approval

KP
30/12

Second Member

Office of the Second Member of Council. 31 DEC. 1932 No. 2233.

KP
3/1

Dewan)

KP
4.1.33

DEWAN'S OFFICE 3936 4 - JAN. 1933

5/1/33

Issue & submit with a D.O.

KP
5.1.33

TYPING SECTION 5. JAN. 1933 GENL. & REV. SEC.

Serial No.

Submit with a D. F. N.

GP BM
23/1/33
24
Secy.)

For approval
SB
24/1/33

First Member.

Law
24.1.33.
25/1/33

Mine
25/1/33

OFFICE OF PT 1ST
25 JAN. 1933
No 247-60

NOTE—Contn. Sheet.

WD 70—GBPM—60,000—13-8-31.

(4

Submitted to His Highness.

I submit herewith for His Highness's gracious perusal the Administration Report of the Serum Institute for the year 1931-32 with the Government Review thereon.

M N Venkatarama Rau
Dewan (in charge).

Bangalore,
25th January 1933.)

Record of Cases submitted for the Orders of His Highness the Maharaja.

Subject.

Administration report of the Serum Institute for the year 1931-32 and Government review thereon.

385

Order.

~~KRW~~

26/1/33

27/1/33

27/1/33

383
FH

1165

General and Revenue
Secretariat

Administration Report of the Leprosy Institute for the year 1931-32 and Govt. review.

(*)

31. All urgent or confidential files returned with His Highness' orders may in the absence of instructions or indications to the contrary, be ordinarily circulated to the Members of Council for perusal after the issue of orders.

33. The Secretaries concerned should see that orders in the cases referred to above are issued at once and that the files are returned immediately after to the Chief Secretary for circulation to the Members.

34. In all other cases, the files will first be circulated to the Members of Council at Headquarters and then sent to the Secretariat concerned for the issue of orders.

Circulated to Members of Council for perusal of His Highness' orders ~~before~~/after issue of orders. (*Vide Rules* 31, 33 and 34 of the Subsidiary Rules for the conduct of business of Council in the Manual of Council Rules and Procedure.)

Chief Secretary to Government.

Through the Secretary to Government,

.....Department.

FIRST MEMBER OF COUNCIL.

SECOND MEMBER OF COUNCIL.

6038
27.1.33

Dev. Secy. with Compts.

27/1/33

25/1/33

NOTE.—Contn. sheet

P.P. II 433

App. F VI G 10.

Government of His Highness the Maharaja of Mysore.

GENERAL AND REVENUE DEPARTMENTS

Administration Report of the Serum Institute
Review of the ——— for the year 1931-32

G. O. No. D 3265-6 9/11/33

CN 31-11-3

May this be

i. printed ? ——— Yes

ii. treated as a standing order ? ——— No

iii. published in the Gazette English Part ? ———

iv. translated ? ——— All right K.D. 7.1.33

v. placed at the disposal of the press ?

iv. published in the Gazette Kannada Part ? ——— Submit proceedings

B W 3/12/33

HP 6.12.32

DEVELOP[illegible]

G.R.S. III—3]

Routine Notes.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

Telegraphic Address: "Agri., Bangalore"
Code: 5th Edition A. B. C.

(1 CV 31-32—1

DEPARTMENT OF AGRICULTURE

MYSORE STATE.

~~Immediate.~~

In reply please quote in full the Nos. and indicative symbol given below.

Per. 44/32-33

Encl. 3 reports

1165

BANGALORE, ... 24th September, 193 2

FROM

H. V. KRISHNAYYA, ESQ., B.A., F.C.S.,
OFFG. DIRECTOR OF AGRICULTURE IN MYSORE,
BANGALORE.

DEVELOPMENT SECRETARIAT
26 SEP 1932

To

D. Srinivasa Iyengar, Esq., B.A.,
Secretary to the Government of Mysore,
Development Department, Bangalore.

SIR,

I have the honour to forward herewith (in triplicate) the Annual Report of the Serum Institute for the year 1931-32 with my introductory remarks.

I have the honour to be,
Sir,
Your most obedient servant,

H. V. Krishnayya

Offg. Director of Agriculture.

gkm.

N.B.—Should routine notes be written on small slips, the notes must be copied, or slips pasted on this form.

I N T R O D U C T I O N.

Dr. P. Parthasarathy ceased to be in charge of the Institute from 7th April 1932 when he entered upon his duties as Health Officer of Bangalore. Mr. S. D. Achar who was appointed to succeed him held charge of the Institute during the rest of the year.

The Institute moved into its new habitation near Hebbal in the month of March 1932. The buildings are well situated and are provided with all conveniences and necessary equipment, so that work can now be carried on more efficiently and under more favourable conditions than in the past.

The work of the Institute which was stated primarily with the object of manufacturing anti-Rinderpest Serum and Virus necessary for use within the State was considerably expanded during the year. Other products such as Blackquarter filtrate and serum, Haemorrhagic septicaemia serum and vaccine, were manufactured on a large scale. The cost of production of Serum and virus was slightly higher than that of last year. This was due to the fact that the quantity manufactured was smaller, which again was due to the comparatively low incidence of Rinderpest during the year under reference. The quantity of Rinderpest serum sold to the States of Hyderabad, Baroda and Cochin and Coorg was nearly thrice that sold during the preceding year.

Some preliminary work was done during 1930-31 on the use of the Rinderpest Virus attenuated by passage through goats for inoculating cattle against Rinderpest. As the

As the indications were encouraging, further work was done during the year and a large number of cattle were treated by this method, with generally satisfactory results. The work will be further extended and if the use of goat virus should prove to be as satisfactory and efficacious as the present method of inoculation, it should be possible to effect a reduction in the cost of protecting Live Stock against Rinderpest.

I would like to take this opprotunity of placing on record my deep appreciation of the services rendered by Dr. Parthasaraty. He was the first officer to be placed in charge of the Institute and on him naturally devolved the difficult task of organising every thing from the beginning. There were difficulties to be faced such as unsuitable location and lack of proper facilities and equipment and to have brought it to its present state of efficiency in spite of this handicap is no mean achievement.

N Krishnamurthy

blm.4. Offg. Director of Agriculture.

(2)

ANNUAL REPORT OF THE MYSORE SERUM INSTITUTE FOR THE YEAR 1931-32.

- oOo -

The primary work of the Institute consisted, as usual, of the preparation of Anti-Rinderpest Serum and Rinderpest Virus on a scale sufficiently large to meet the requirements of the Civil Veterinary Department for combating Rinderpest by the Serum-Virus-Simultaneous method of inoculation.

A noticeable feature of the year was that the Institute was able to undertake the manufacture of other Sera and Vaccines, and during the year Black-quarter Filtrate and Serum, Haemorrhagic Septicaemia Serum and Vaccine and Sheep-Pox Vaccine were prepared on a large scale and issued to the Civil Veterinary Department.

These materials were first produced on an experimental scale in 1930-31 and the results of the tests were so satisfactory that large scale production of the preparations was made possible during the year.

Goat Virus, as a single vaccine against Rinderpest, was also produced on a much larger scale than in th preceding year and further tests with it were conducted with some definite results which will be detailed in a subsequent paragraph.

II. ADMINISTRATION:- Dr. P.Parthasarathy was in charge of the Institute from the commencement of the year until 7th April 1932 except from 21-3-1932 to 2-4-1932 when he was on privilege leave and during

which period I held charge. On his transfer as Health Officer, Bangalore City, I have been appointed in the place and held charge of the Institute from 7th April 1932.

During the year the post of the Assistant Superintendent vacated by me was not filled up.

Government sanctioned the appointment of an Assistant Bacteriologist during the year and Mr. P.U.Nayar, one of the officers of the Scientific section of Civil Veterinary Department, was appointed as Assistant Bacteriologist. He took charge on 28th September 1931.

III.STAFF:- The staff of the Institute consisted of:

6 Veterinary Inspectors
9 Salustries
3 Laboratory Attendants
1 Carpenter
1 Packer and
57 cattlemen and
5 Clerks.

IV. BUILDINGS:- The Institute which was located since its inception in the building adjoining the Guest's Quarters, in High Grounds, near the Race Course, was shifted to the new buildings adjacent to the Hebbal Agricultural Farm on 10th March 1932.

The work of the Institute is considerably facilitated by the increased accommodation and improved equipments which have been provided for in the new buildings.

The incinerator, however, is still under construction.

The cattle sheds in the Institute are at present provided with thatched roofings. These are liable to too frequent disrepair and are therefore unfit for housing cattle. Permanent cattle sheds with zinc sheet or Mangalore tile roofings are urgently needed in an Institute of this kind.

There are also no quarters for the Officers or men attached to the Institute. This is another serious want and it is hoped that provision will be made for these additional requirements in due time.

V. ANIMALS:- He-buffaloes for producing the different kinds of sera, and he-buffalo calves for obtaining Rinderpest Virus, Goat for preparing Goat Virus, Sheep for preparing Sheep-Pox Vaccine, and rabbits, Guinea pigs and mice for purposes of tests are the kinds of animals used in the Institute.

During the year tenders were called for the supply of buffaloes and buffalo calves and contracts were given to persons quoting most favourable rates.

VI. RESERVE DEPOT:- This depot, where animals are kept under observation prior to use, was continued to be located in the Chatram near Sampangetank rented out for the purpose. It is proposed to shift the Reserve Depot to the Butt-Fire Buildings, about a mile to the South of the present Institute, so as to have the animals within easy reach of the Institute.

VII. BETTAHALLI KAVAL:- This kaval continued to be used as a depot for used or done animals of the Institute, before their disposal, and a staff consisting of a Veterinary Inspector, a Balustry and seven cattlemen, was maintained at the kaval for this purpose.

As this practice was found to be very expensive, and sales uncertain, the Depot was closed on 22nd April 1932 and the staff recalled as there was increased work in the Institute and the staff undermanned.

Instead, done animals are now sold to contractors on tender system, which is found to be convenient and profitable.

VIII. EPIDEMICS IN THE INSTITUTE:- Except for Foot and Mouth during April 1932, there has been no untoward outbreak of any epidemic among the animals in the Institute. Even in the case of out-break of Foot and Mouth necessary measures for its control and eradication were promptly adopted without causing any dislocation of work in the Institute.

IX. WORK DONE IN THE INSTITUTE:-

(1) Bacteriological section:- The work in this section consists of (a) the manufacture and standardisation of biological products, (b) the cultural and microscopic examinations of blood and other materials (c) conducting post-mortem examinations. The following are the statements of work done in this section:-

(a)

Statement showing the biological products manufactured in the Institute during the year 1931-32.

No.	Name of product.	Quantity produced	Remarks
1.	Blackquarter filtrate	75,960 doses	5 c.c. a dose
2.	Haemorrhagic Septicaemia vaccine	27,460 ,,	5 c.c. a dose
3.	Sheep-pox vaccine	116.697 c.c. conc.	1 c.c. representing 400 doses

(b)

Statement showing the cultural and microscopic examinations of blood and other materials done during the year 1931-32.

No. of samples of virus tested for sterility.

Buffalo bull calf virus	Goat Virus	Total
1,120	111	1,231

No. of cultural examinations undertaken.

Plate cultures	Cultures of Anaerobic organisms	Total
1,179	1,135	2,314

No. of slides examined for

Protozoa	Other bacterial contaminations.	Total
1,129	1,653	2,782

Of the 2,782 smears examined during the year only 726 or 26.1% showed other complicating infections. The following are the particulars of examination.

Piro ... Nil

Tryps ... 3

No organisms found 2,056

Bacteria organisms 552
Diphtheria and other organisms 171
} 2782

(c)

Statement showing the postmortem examinations conducted during 1931 - 32.

Buffalo bull calves	Goats & Sheep.	Buffaloes	Rabbits	Guinea pigs.	Total
1,498	43	67	22	16	1,646

(2) VIRUS SECTION:- Buffalo bull calves were as usual used for producing Rinderpest Virus. The virus produced was sufficient to meet all the requirements of the Civil Veterinary Department. 1,639 calves were used this year as against 2,440 in the previous year. Only 230 calves were rejected as non-reactors, i.e., as not showing the clinical signs of the disease in time, whereas 600 were rejected for the same reason last year. 7,20,400 c.c. of Rinderpest Virus were produced at a total cost of Rs.33,470-14-0 which works out at nine pies nearly per c.c. as compared with 8 pies per c.c. in the previous year. While no virus was supplied to places outside Mysore in the preceding year, 1,800 c.c. of Rinderpest virus was sold to Coorg during the present year realising therefrom a sum of Rs.122-3-0. The following statement gives the details of virus production and the cost thereof:-

Statement showing the Rinderpest Virus produced and supplied during the year 1931-32.

Quantity of virus produced including the quantity remaining on 1-7-1931.	Quantity supplied to Mysore Civil Veterinary Department.	Quantity used by the Veterinary Inspectors of the Institute for experimental inoculations on Amritmahal cattle.	Quantity supplied to places outside the State.	Quantity of virus used in the Institute.	Quantity of virus discarded.	Quantity of virus remaining on 1-7-32.	Total
7,26,725 c.c.	5,85,650 c.c.	650 c.c.	1800 c.c.	34,800 c.c.	95,475 c.c.	8,350 c.c.	7,26,725 c.c.

Statement showing the cost of Rinderpest Virus produced and issued during the year 1931 - 32.

Cost of calves purchased and used during the year.	Establishment charges. (Pay of the virus section, ½ of Officer's pay, 1/3 of office establishment, laboratory section and packing section.)	Feeding charges, (1/3 of the whole cost is taken.)	Contingencies (½ of the whole cost is taken.)	Chemicals & miscellaneous glassware, (1/3 of the whole cost is taken.)	Travelling allowance (½ of the whole cost is taken)	Total	Deduct receipt from the sale of done calves and carcasses.	Nett cost of virus.
Rs.	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs.
15,570/-	10,434/-	5004/-	4577/-	533/-	459/-	36,579/-	3108/-	33,470/-

N.B. Annas and pies omitted.

Thus the cost of virus per c.c. works up to a little less than 9 pies as compared with 8 pies of last year. The slight increase in the cost of virus is mainly due to the fall of nearly 50% in the production of the virus owing to decrease in the demand for it.

(3) GOAT VIRUS:- It has been known for some time that passaging of R.P. Virus through goats attenuates it to a certain degree. This knowledge was utilised to see if goat x virus alone could be used for immunising cattle against - Rinderpest. Experiments in this direction were started in April 1931 in the Institute. The results seemed promising. Later, the Superintendent, Civil Veterinary Department, indented for some Goat virus from the Institute and used them with satisfactory results. The experiments were continued during the year under report. The tests were held with Goat virus in the Institute on maidan calves, buffalo calves and malnad calves and, at the instance of the Director, on 331

Amritmahal cattle at Sulekere. As a result of all these tests the following interesting indicarions are noted:-

a) Buffaloes are very susceptible and show a severe reaction resulting in a high rate of martality when goat virus alone is inoculated.

b) Malnad cattle, though not quite so susceptible as buffaloes, show a large number of severe reactors a few of which may probably even succumb to it.

c) Maidan cattle are the least susceptible of all, very few showing a severe reaction whereas no deaths have occured among the animals experimented upon, etc.

d) Amritmahal cattle, considered for all practical purposes as maidan animals, have however shown a comparatively more severe reaction than maidan cattle. A few deaths also occured among them although the death rate is hardly 1% but further tests on other herds are to be done before any decision could be arrived as regards the extent of their susceptibility to goat virus.

From the above it will be seen that Goat virus alone can be safely used on maidan cattle whereas in the case of buffaloes and malnad animals simultaneous inoculations with Goat virus and Anti-Rinderpest Serum may be undertaken.

The field experiments by the Civil Veterinary Department, with the Goat virus supplied from the Institute also confirm the safety of goat virus alone for maidan cattle.

So encouraging have been these results particularly

with reference to the maidan cattle that it is now proposed to start inoculations with goat virus alone in a few maidan villages to begin with.

(4) ANTI-RINDERPEST SERUM:- Owing to a decline in the number of outbreaks of Rinderpest in the State, there was a considerable reduction in the demand from the Civil Veterinary Department for this product. There were 148 unused animals on hand at the beginning of the year. During the year 367 animals were purchased making up a total of 515 animals of which 400 were used for the production of Anti-Rinderpest Serum as against 896 used in the previous year. Later on 10 of these were again used for preparing B.Q. serum and 10 more for H.S. Serum. There were 78 deaths among the producer of these several sera during the year as against 75 among the Anti-Rinderpest Serum producers alone in the previous year. 4,71,759 doses of Rinderpest Serum were produced during the year. At the beginning of the year, 2,84,390 doses were in stock thus making up a total of 7,56,149 doses, out of which 5,10,000 doses were supplied to the Civil Veterinary Department and 2,82,550 doses were sold out to places outside Mysore such as Hyderabad, Coorg, Baroda and Cochin States as against 9,55,000 doses issued to the Civil Veterinary Department and 1,01,870 doses sold out to places outside Mysore in the preceding year. 6,200 doses were used by the Officers of the Institute, in the Institute itself, and on Amritmahal herds and 42,999 doses of old and otherwise contaminated serum were discarded after tests as against 14,514 doses used in the Institute and on Amritmahal herds and 38,196 doses of contaminated serum in the preceding year. The balance of Anti-

Rinderpest Serum on hand at the end of the year was 1,14,400 doses. The following statements give the details of Anti-Rinderpest Serum production and the cost thereof.

Statement showing the Anti-Rinderpest Serum produced and supplied during the year 1931-32.

-oOo-

Quantity of Anti-Rinderpest serum in stock on 1-7-1931.	Quantity of serum produced during the year.	Total	Quantity of serum supplied to the Mysore Civil Veterinary Department.	Quantity of serum used by the Veterinary Inspectors of the Institute for experiments on Amrit mahal cattle.	Quantity of serum supplied to places outside the State.	Quantity of serum discarded as old or otherwise contaminated.	Quantity of serum used in the Institute.	Quantity of serum remaining on 1-7-32	Total
2,8[illegible],390 doses	471[illegible] doses	756,149 doses	310,000 doses	2000 doses	282,550 doses	42,999 doses	4200 doses	114,400 doses	756149 doses

Statement showing the cost of Anti-Rinderpest Serum produced and issued during the year 1931-32.

-oOo-

Cost of buffaloes &c purchased and used.	Establishment charges (pay of serum section ⅓ of Officers pay, 2/3 of office establishment, Laboratory section & packing section)	Feeding charges (2/3 of the whole cost is taken)	Contingencies. (⅓ of the whole cost is taken)	Chemicals & miscellaneous glassware (2/3 of the whole cost is taken)	Travelling allowance (⅓ of the whole cost is taken)	Total cost of Anti Rinderpest Serum H.S. Serum H.S. Vaccine B.Q.F. B.Q. Serum Sheeppox vaccine	Deduct receipt from the sale of done buffaloes & carcasses	Deduct receipt from the probable realisable amount by the sale of used animals	Net cost of Anti-Rinderpest Serum including the cost of other sera vacci
Rs. 14,454/-	Rs. 25,795/-	Rs. 10,608/-	Rs. 4577/-	Rs. 1396/-	Rs. 459/-	Rs. 56,691/-	Rs. 3071/-	Rs. 787/-	Rs. 52,83[illegible]

N.B. Annas and pies omitted.

4,71,759 doses of Rinderpest Serum and 1,63,811 dpses pf pther sera and vaccines were produced at a total cost of Rs.52,832-11-8 working at 0-1-4 nearly per unit dose of respective products as against 0-1-1 per dose of Anti-Rinderpest Serum alone during previous years.

This increase in the cost is mainly due to the decrease in the quantity of Anti-Rinderpest Serum produc during the year on account of the decrease in the demand for the same from the Civil Veterinary Department and to a certain extent to the initial cost incurred in preparing other sera and vaccines.

The sale of 2,82,850 doses of Anti-Rinderpest Serum alone to places outside the State amounted to Rs.53,653/- as against Rs.19,657-13-0 in the previous year. The net cost of sera and vaccines prepared in the Institute during the year amounted as stated above to Rs.52,832-11-8 only.

Thus it will be seen that the amount from sales has slightly exceeded the actual cost incurred for preparing sera and vaccines during the year under revie

(5) HAEMORRHAGIC SEPTICAEMIA VACCINE:- 27,46 doses of this vaccine were prepared and 21,500 doses of it were issued to the Civil Veterinary Department as against 1,790 doses prepared and issued to the Department in the previous year.

(6) ANTI-HAEMORRHAGIC SEPTICAEMIA SERUM:- 5,982 doses of Anti-Haemorrhagic Septicaemia serum wer produced for the first time and 5,500 doses were supplied t the Civil Veterinary Department during the year.

(7) ANTI-BLACKQUARTER SERUM:- 7,809 doses o

Anti-Blackquarter serum were produced and 6,087 doses were supplied to the Department during the year.

The animals discontinued from Rinderpest Serum production were later on immunised and used for B.Q. and again for H.S. Serum production.

(8) BLACKQUARTER FILTRATE:- At the commencement of the year controlled field tests with B.Q. filtrate prepared in the Institute was undertaken in six villages of Bangalore taluk in collaboration with the Superintendent, Civil Veterinary Department, and nearly 1,000 animals were inoculated with satisfactory results and a large scale manufacture of B.Q. filtrate for supply was undertaken during the year.

75,960 doses of Blackquarter filtrate were prepared during the year as against 490 doses prepared experimentally last year. 62,770 doses were supplied to the Civil Veterinary Department during the year.

Occasionally, some reports were received of a small percentage of break-downs in immunity among the inoculated animals. The Superintendent, Civil Veterinary Department, was requested to instruct the Veterinary Inspectors to use both Serum and Filtrate together, in the presence of outbreaks, to prevent the animals contracting the disease during the negative phase. A second reinforcing dose of the Filtrate, about a week after the first inoculation, as is recommended in the case of Blackquarter Aggressin, was tried on the Farm and Dairy animals of the Hebbal Agricultural Farm, and this method is proposed to be recommended for general adoption for further safety and to prevent even the few sporadic cases such as have been sometimes noticed among the inoculated.

(9) SHEEP-POX VACCINE:- 46,600 doses of this vaccine were prepared and 30,700 doses were supplied to the Civil Veterinary Department during the year.

X. The following are the details as to the cost of Sera and Vaccines supplied to the Civil Veterinary Department during the year at the rates proposed for sale to places outside the State.

Name of product.	Quantity supplied during 1931-32.	Cost of product at the proposed rate.
Anti-Rinderpest Serum.	3,10,000 doses	Rs.59,106-10-8
Rinderpest Virus	5,85,650 "	Rs.36,603- 2-0
Anti-Haemorrhagic Septicaemia Serum	5,500 "	2,106- 6-8
Anti-Blackquarter Serum	6,087 "	2,338- 2-0
Haemorrhagic Septicaemia vaccine.	21,300 "	4,031- 4-0
Blackquarter filtrate	62,770 "	15,692- 8-0
Sheep-pox vaccine	30,700 "	115- 2-0
		Total Rs.1,19,985- 3-4.

The statistical statements of all the products giving full details as to the quantity produced, supplied and balance remaining for the year 1931-32 are appended to this report.

Out of Rs.1,10,390 sanctioned by Government for expenditure during 1931-32 a sum of Rs.1,241/- was re-appropriated by the Agricultural Department proper and only Rs.1,04,939 was actually spent saving Rs.4,209-2-4 in the budget grant. Against this amount of Rs.1,04,939

spent actually during the year the cost of all the products supplied to the Civil Veterinary Department and to places outside the State at the proposed rates together with the amount realised by the sale of done animals, carcasses, manure etc., and the cost of the stock of all the products and animals remaining at the beginning of the current year would amount to Rs.2,04,000.

XI. GENERAL:- The Sera and Vaccines prepared in the Institute were exhibited during the Annual Exhibition held during October in Mysore.

A paper on "The present methods of preparation of the several Sera and Vaccines" was read by me at the Fourth Annual Conference of the Mysore Veterinary Medical Association and another on "The principles of Immunity" by Mr. P.U.Nayar, the Assistant Bacteriologist.

Mr. K.Ranganatha Rao, Assistant Superintendent, Scientific Section of the Civil Veterinary Department was provided with Laboratory facilities, required for his research work, in accordance with the orders of the Government in the matter. He has also been rendering very valuable assistance in the work of the Institute.

I beg leave to place on record the valuable work of Dr. P.Parthasarathy to whom, more than to anyone else, the Institute owes its present efficiency and usefulness. I am grateful to the Live Stock Expert in Mysore, Bangalore, and the Superintendent, Civil Veterinary Department, Bangalore, for their cordial cooperation on all occasions, and my thanks are due to the Agricultural Engineer and the Senior Artist attached to the Office of the Director of Agriculture, for the help they had rendered us.

In concluding I wish to record my appreciation of the work done during the year by the whole staff of the Institute, executive as well as ministerial, who had often to work over time to cope with the increasing work in the Institute.

Officer in charge,
Serum Institute.

STATEMENT 1

STATEMENT SHOWING THE QUANTITY OF ANTI-RINDERPEST SERUM PRODUCED, SUPPLIED, AND BALANCE REMAINING FOR THE YEAR 1931 - 32.

Month	Balance at the beginning of the month.	Quantity produced during the month.	Total	Quantity supplied to Civil Veterinary Department.	Quantity supplied to Outside the State.	Quantity of Serum used in the Institute including wastage.	Total	Stock of Serum on the last day of the month.
July '31	2,84,390 doses	78,062 doses	3,62,452 doses	-	50 doses	2,565 doses	2,565 doses	3,59,887 doses
August	3,59,887 "	61,412 doses	4,21,299 "	-	10,000 "	-	10,000 "	4,11,299 "
September	4,11,299 "	-	4,11,299 "	-	20,000 "	-	20,000 "	3,91,299 "
October	3,91,299 "	-	3,91,299 "	-	10,000 "	-	10,000 "	3,81,299 "
November	3,81,299 "	-	3,81,299 "	95,000 doses	15,100 "	-	1,10,100 "	2,71,199 "
December	2,06,199 "	65,000 doses	2,71,199 "	25,000 "	40,000 "	-	65,000 "	2,06,199 "
January 1932.	2,06,199 "	25,848 doses	2,32,047 "	15,000 "	10,600 "	1,700 doses	27,300 "	2,04,747 "
February	2,04,747 "	1,71,572 doses	3,76,319 "	25,000 "	26,300 "	-	51,300 "	3,25,019 "
March	3,25,019 "	-	3,25,019 "	25,000 "	63,000 "	2,000 doses	90,000 "	2,35,019 "
April	2,35,019 "	-	2,35,019 "	25,000 "	46,500 "	25,669 "	97,169 "	1,37,850 "
May	1,37,850 "	-	1,37,850 "	75,000 "	11,000 "	1,800 "	87,800 "	50,050 "
June	50,050 "	1,34,865 doses	1,84,915 "	25,000 "	30,000 "	15,515 "	70,515 "	1,14,400 " (5 c.c. a dose)
		4,71,759 doses	7,56,149 doses	3,10,000 doses	2,82,550 doses	49,199 doses	6,41,749 doses	

OFFICER IN CHARGE,
MYSORE SERUM INSTITUTE

STATEMENT 2

STATEMENT SHOWING THE QUANTITY OF ANTI-HAEMORRHAGIC SEPTICAEMIA SERUM PRODUCED, ISSUED AND BALANCE REMAINING FOR THE YEAR 1931-32.

Month	Balance at the beginning of the month.	Quantity produced during the month.	Total	Quantity supplied to Civil Veterinary Department.	Quantity supplied to Places outside the State.	Quantity of serum used in the Institute including wastage.	Total	Stock of Serum on the last day of the month
July 1931	-	-	-	-	-	-	-	-
August "	-	-	-	-	-	-	-	-
September "	-	-	-	-	-	-	-	-
October "	-	-	-	-	-	-	-	-
November "	-	-	-	-	-	-	-	-
Dec mber "	-	-	-	-	-	-	-	-
January 1932	-	-	-	-	-	-	-	-
February "	-	4,444 doses	-	-	-	-	-	4,444 doses
March "	4,444 doses	6,794 "	11,238 doses	-	-	-	-	11,238 "
April 1932	11,238 "	4,431 "	15,669 "	-	-	-	-	15,669 "
May "	5,223 " (This balance quantity has been taken at 15 c.c. a dose, whereas the prevoous months at 5 c.c. a dose.)	759 " (15 c.c. a dose)	5,982 "	2,000 doses	-	229 doses	2,229 doses	3,753 "
June	3,753 doses	-	3,753 doses	3,500 doses	-	-	3,500	253 doses (15 c.c. a dose.)
		5,982 doses	5,982	5,500 doses	-	229 doses	5,729	

STATEMENT 3.

STATEMENT SHOWING THE QUANTITY OF ANTI-BLACKQUARTER SERUM PRODUCED ISSUED AND BALANCE REMAINING FOR THE YEAR 1931- 32.

Month.	Balance at the beginning of the month.	Quantity produced during the month	Total	Quantity supplied to Civil Veterinary Department.	Quantity supplied to Places outside the State.	Quantity of serum used in the Institute including wastage.	Total	Stock of serum on the last day of the month.
July 1931	-	-	-	-	-	-	-	-
August "	-	23,428 doses (5 c.c. a dose)	23,428 doses	-	-	-	-	23,428 doses
September	23,428 doses	-	23,428 "	-	-	-	-	23,428 "
October	23,428 "	-	23,428 "	-	-	-	-	23,428 "
November	23,428 "	-	23,428 "	-	-	-	-	23,428 "
December	23,428 "	-	23,428 "	-	-	-	-	23,428 "
January 32	23,428 "	-	23,428 "	-	-	-	-	23,428 "
February "	23,428 "	-	23,428 "	-	-	-	-	23,428 "
March "	23,428 "	-	23,428 "	-	-	-	-	23,428 "
April "	23,428 "	-	23,428 "	260 doses (5 c.c. a dose)	-	3,378 doses (5 cc a dose)	3,638 doses (5 cc a dose)	19,790 "
May "	6,596 " (Taken at 15 cc a dose whereas in previous months at 5 cc a dose)	-	6,596 " (15 cc a dose)	5,000 doses (15 cc a dose)	-	~~2,378 doses (5 cc a dose)~~ -	5,000 doses	1,596 " (15 c.c. a dose)
June 32	1,596 doses (15 c.c. a dose	-	1,596 doses	1,000 doses	-	-	1,000 doses	596 doses (15 c.c. a dose)
		7,809 doses (15cc a dose)	7,809 doses	6,087 doses	-	1126 doses	7,213 doses	

STATEMENT 4.

STATEMENT SHOWING THE QUANTITY OF HAEMORRHAGIC SEPTICAEMIA VACCINE PREPARED, ISSUED AND BALANCE REMAINING FOR THE YEAR 1931-32.

Months	Balance at the beginning of the month.	Quantity produced during the month.	Total	Quantity supplied to Civil Veterinary Deptt.	Places outside the State.	Quantity of Vaccine used in the Institute including wastage.	Total	Stock of Serum on the last day of the month.
July 1931	-	3,070 doses	3,070 doses	-	-	-	-	3,070 doses
August "	3,070 doses	4,080 "	7,150 "	2,000 doses	-	70 doses	2,070 doses	5,080 "
September "	5,080 "	-	5,080 "	3,000 "	-	-	3,000 "	2,080 "
October "	2,080 "	-	2,080 "	-	-	-	-	2,080 "
November "	2,080 "	4,430 doses	6,510 "	4,500 doses	-	-	4,500 doses	2,010 "
December "	2,010 "	-	2,010 "	-	-	-	-	2,010 "
January 1932	2,010 "	-	2,010 "	-	-	530 doses	530 doses	1,480 "
February "	1,480 "	-	1,480 "	1,480 doses	-	-	1,480 doses	-
March "	-	3,570 doses	3,570 "	520 "	-	-	520 "	3,050 doses
April 1932	3,050 doses	2,990 "	6,040 "	-	-	70 doses	70 "	5,970 "
May "	5,970 "	-	5,970 "	5,000 doses	-	-	5,000 "	970 "
June "	970 "	9,320 doses	10,290 "	5,000 "	-	-	5,000 "	5,290 " (5c.c. a dose
		27,460 DOSES	27,460 doses	21,500 doses.	-	670 doses	22,170 doses	

OFFICER IN CHARGE.
HAFFKINE BIOLOGICAL INSTITUTE.

STATEMENT 6.

STATEMENT SHOWING THE QUANTITY OF BLACKQUARTER FILTRATE PREPARED, ISSUED AND BALANCE REMAINING FOR THE YEAR 1931 - 32.

Month	Balance at the beginning of the month.	Quantity produced during the month.	Total	Quantity supplied to Civil Veterinary Department.	Places outside the State.	Quantity of Filtrate used in the Institute including wastage.	Total	Stock of Filtrate on the last day of the month.
July 1931	490 doses	700 doses	1,190 doses	-	-	-	-	1,190 doses
August "	1,190 "	2,087 "	3,277 "	500 doses	-	2,737 doses	3,237 doses	40 "
September	40 "	8,386 "	8,426 "	-	-	5,795 "	5,797 "	2,631 "
October 31	2,631 "	1,950 "	4,581 "	3,680 doses	-	731 "	4,411 "	170 "
November "	170 "	12,310 "	12,480 "	1,650 "	-	-	1,650 "	10,830 "
December "	10,830 "	20,097 "	30,927 "	10,000 "	-	-	10,000 "	20,927 "
January 32	20,927 "	-	20,927 "	-	-	-	-	20,927 "
February "	20,927 "	15,600 doses	36,527 "	25,000 doses.	-	20 doses	25,020 doses	11,507 "
March "	11,507 "	-	11,507 "	-	-	-	-	11,507 "
April 1932	11,507 "	5,970 doses	17,477 "	14,060 doses	-	537 doses	14,597 doses	2,880 "
May "	2,880 "	-	2,880 "	2,880 "	-	-	2,880 doses	-
June "	-	8,860 doses	8,860 "	5,000 doses	-	10 doses	5,010 "	3,850 doses (5 cc a dose)
		75,960 doses	76,450 doses	62,770 doses	-	9,830 doses	72,600 doses	

OFFICER IN CHARGE.
MYSORE SERUM INSTITUTE

STATEMENT 6

Statement showing the quantity of Sheep-pox Vaccine prepared, issued and balance remaining for the year 1931- 32.

Month.	Balance at the beginning of the month.	Quantity produced during the month.	Total	Quantity supplied to Civil Veterinary Department.	Places outside the State.	Quantity of vaccine used in the Institute including wastage.	Total.	Stock of vaccine on the last day of the month.
July 1931.	-	-	-	-	-	-	-	-
August "	-	-	-	-	-	-	-	-
September"	-	-	-	-	-	-	-	-
October "	-	-	-	-	-	-	-	-
November "	-	-	-	-	-	-	-	-
December "	-	49.791-c.c.	49.791 c.c.	33	-	3.5 c.c.	36.5 c.c.	13.291 c.c.
January 1932	13.291 cc	-	13.291 c.c.	-	-	-	-	13.291 c.c.
February "	13.291 cc	19.500 c.c.	32.791 c.c.	18 c.c.	-	11 c.c.	29 c.c.	3.791 c.c.
March "	3.791 c.c.	11.750 c.c.	15.541 cc	10.5 c.c.	-	-	10.5 c.c.	5.041 c.c.
April 1932	5.041 c.c.	35.655 c.c.	40.696 c.c.	7.75 c.c.	-	Nil	7.75 c.c.	32.946 c.c.
May "	32.946 c.c. or 13,175 doses	-	32.945 c.c. or 13,175 doses	3 c.c. or 1200 doses	-	.5 c.c. or 200 doses	3.5 c.c. or 1400 doses	29.446 c.c. or 11,775 doses
June 1932.	29.446 c.c. or 117,75 doses	-	29.446 c.c. or 11,775 doses	4.500 c.c. or 1,800 doses	-	-	4.500 c.c. or 1800 doses	24.945 c.c. or 9975 doses
		116.696 c.c.	116.696 c.c.	76.75 c.c.	-	15.0 c.c.	91.750 c.c.	

OFFICER IN CHARGE.

STATEMENT B

Statement showing the quantity of Anti Rinderpest Virus prepared, issued and balance remaining for the year 1931-32.

Month.	Balance at the beginning of the month.	Quantity produced during the month.	Total.	Quantity supplied to Civil Veterinary Department.	Quantity supplied to Places outside the State.	Quantity of virus used in the Institute including discarded & wastage.	Total	Stock of virus on the last day of the month.
July 1931	253 ozs.	3977 ozs.	4230 ozs.	2998 ozs.	-	985 ozs.	3983 ozs.	247 ozs.
August "	247 ozs.	2044 ozs.	2291 ozs.	1907 ozs.	-	208 ozs.	2115 ozs.	176 ozs.
September '31	176 ozs.	2314 ozs,	2490 ozs,	1725 ozs.	-	628 ozs.	2353 ozs.	137 ozs.
October "	137 ozs.	1877 ozs.	2014 ozs.	1565 ozs.	-	387 ozs	1952 ozs.	62 ozs.
November "	62 ozs.	2804 ozs.	2866 ozs	2173 ozs.	4 ozs.	249 ozs	2426 ozs.	440 ozs.
December "	440 ozs.	2975 ozs.	3415 ozs.	2855 ozs	-	462 ozs.	3317 ozs.	98 ozs.
January 1932	98 ozs.	2380 ozs.	2478 ozs.	2056 ozs.	-	260 ozs.	2316 ozs.	162 ozs.
February' "	162 ozs.	1356 ozs.	1518 ozs.	1317 ozs.	24 ozs.	155 ozs.	1496 ozs.	22 ozs.
March "	22 ozs.	1950 ozs.	1972 ozs.	1574 ozs.	26 ozs.	284 ozs.	1884 ozs	88 ozs.
April "	88 ozs.	1765 ozs.	1853 ozs.	1358 ozs.	12 ozs.	374 ozs:	1740 ozs.	113 ozs.
May "	113 ozs	2493 ozs.	2606 ozs.	1907 ozs.	-	357 ozs	2264 ozs.	342 ozs.
June 1932	342 ozs.	2881 ozs	3223 ozs.	2021 ozs.	6 ozs.	862 ozs.	2889 ozs.	334 ozs. or 8350 c.c.
	29,069 ozs.or 7,26,725 cc			23,452 ozs. or 5,82,300 cc	72 ozs or 1800 cc	5211 ozs. or 1,30,275 cc	28,735 ozs. or 7,18,375 cc	

AFFIDEP IN CHARGE
HYDERABAD SERUM INSTITUTE

3 copies

Appendix F G—1]

SUBJECT .....

.....

.....

Section C.U.

File No. 31-32

Serial No. ✓

Diary No. of letter replied to .....

No. 01625/Sec.

To The Superintendent, Govt. Printing, Bangalore.

General and Revenue Secretariat

( )

the 193 .

Date of issue 16/10/32

Signed by [illegible]

Sir,

I am directed to forward herewith a copy of the Administration report of the Servants Institute for 1931-32 and to request that the same may be printed and a hundred and fifty copies kept ready for being bound with the first review thereon which will be sent to you in due course.

List of enclosures .....

The proof copies may be kindly sent to the Director of Agriculture for correction and final approval.

Copied by [illegible] 14/10

Examined by .....

Please acknowledge.

13/10

for Dewan Secy.

WD 71—GBPM—40,000—20-7-31.

P.T.O.

D1626

Memo no 17/10/32

Copy of the above for information
with reference to this letter No Pr 44/32-33
d. 24/9/32

B O.

Dr Dewey.

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

General and Revenue Secretariat

No. D1625/2 — Dated, Bangalore, 14th October 1932.

From C.N. 81-32-2

The *Secretary to the Government of His Highness the Maharaja of Mysore, Development Department.*

To

The Superintendent,

Government Printing, Bangalore.

Sir,

I am directed to forward herewith a copy of the Administration Report of the Serum Institute for 1931-32 and to request that the same may be printed and a hundred and fifty copies kept ready for being bound with the Government Review thereon which will be sent in due course.

The proof copies may be kindly sent direct to the Director of Agriculture for correction and final approval.

I have the honour to be,

Sir,

Your most obedient servant,

Sd/- D. Srinivasaiengar,

Secretary to Government,

Development Department.

Memo No. D1631

Dated Bangalore, 14th October 1932.

Copy of the above is forwarded with compliments to the Director of Agriculture in Mysore for information with reference to his letter No.Per. 44/32-33 dated 24th September 1932.

By Order,

for Secretary to Government,

Development Department.

ACH.S.

Ag. 31-32-3 27

Proceedings of the Government of
His Highness the Maharaja of Mysore.

.....

Read -

Letter No.Per 44/32-33 dated 24th September 1932 from the Director of Agriculture submitting the Administration Report of the Serum Institute for the year 1931-32.

---:0:---

ORDER NO. A 3265-6

Dated, Bangalore, 9th December 1932.

R e c o r d e d.

2. Dr.P.Parthasarathy having been transferred as Health Officer, Bangalore City, on 7th April 1932, Mr.S.D.Achar was in charge of the Institute during the rest of the year.

3. The Institute was shifted to the New Building at Hebbal on 10th March 1932.

4. The Bettahalli Kaval was closed on 22nd April 1932 and its staff was drafted on to the Institute.

5. Anti-Rinderpest Serum - There was a considerable reduction in the demand within the State for Anti-Rinderpest Serum owing to a decline in the number of Rinderpest outbreaks in the State. Government are glad to note that the ~~advantages of the~~ demand by Mysore for Anti-Rinderpest Serum ~~is becoming well known in other parts of India.~~ The quantity of serum supplied to ~~Hyderabad~~

23

Hyderabad
Coorg, Baroda and Cochin States is reported to have considerably increased being thrice the quantity sold in the previous year.

6. Other Biological Products - Govt. are glad to note that the Institute was able to undertake during the year the manufacture of other sera and vaccines on a ~~large scale for the control of other diseases~~, such as goat virus, Blackquarter filtrate and Serum, Haemorrhagic Septicaemia Serum and Vaccine and Sheep-pox vaccine on a large scale.

7. Investigations. It is reported that experiments were continued with some definite results during the year in regard to the immunity conferred by goat virus against Rinderpest.

8. Cost of Production - The cost of production of Serum and Virus is reported to have been slightly higher than in last year due to the fact that the quantity manufactured was smaller.

9. General - The Sera and Vaccines prepared in the Institute were exhibited in the Mysore Dasarah Exhibition during October 1932. Two papers were read at the fourth Annual Conference of the Mysore Veterinary Medical Association.

10. Conclusion - The work of the Institute during the year under report was satisfactory. Government wish to place on record their appreciation of the services

of Dr.P. Parthasarathy as head of the Institute.

Secretary to Govt,
Development Departt.

To

The Director of Agriculture in Mysore,

The Senior Surgeon in Mysore.

6/11/33

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE

31

Read:-

Letter No.Per 44/32-33 dated 24th September 1932 from the Director of Agriculture submitting the Administration Report of the Serum Institute for the year 1931-32.

Order No. D 3265-6 Fen 31-32-3

Dated, Bangalore, 6th January 1933.

R e c o r d e d.

2. Dr. P. Parthasarathy having been transferred as Health Officer, Bangalore City, on 7th April 1932, Mr. S.D. Achar was in charge of the Institute during the rest of the year.

3. The Institute was shifted to the New Building at Hebbal on 10th March 1932.

4. The Bettahalli Kaval was closed on 22nd April 1932 and its staff was drafted on to the Institute.

5. Anti-Rinderpest Serum. There was a considerable reduction in the demand within the State for Anti-Rinderpest Serum owing to a decline in the number of Rinderpest outbreaks in the State. Government are glad to note that the demand by other parts of India for the Anti-Rinderpest Serum made by the Institute is growing. The quantity of serum supplied to Coorg, Hyderabad, Baroda and Cochin States is reported to have considerably increased being thrice the quantity sold in the previous year.

6. Other Biological Products. Government are glad to note that the Institute was able to undertake, during the year, the manufacture of other sera and vaccines, such as Goat virus, Blackquarter filtrate and Serum, Haemorrhagic Septicaemia Serum and Vaccine and Sheep-pox vaccine on a large scale.

7. Investigations. It is reported that experiments were continued with some definite results during the year in regard to the immunity conferred by goat virus against Rinderpest.

8.

ADMINISTRATION REPORT OF THE MYSORE SERUM INSTITUTE FOR THE YEAR 1931-32.

WITH THE GOVERNMENT REVIEW THEREON.

Government of his highness the Maharaja of Mysore.

GENERAL AND REVENUE DEPARTMENTS.

G. O. No. D. 3265-6—C. V. 31-32-3, dated 9th January 1933.

Administration Report of the Serum Institute.

Reviews the —— for the year 1931-32.

READ—

Letter No. Per. 44/32-33, dated 24th September 1932, from the Director of Agriculture, submitting the Administration Report of the Serum Institute for the year 1931-32.

ORDER NO. D. 3265-6—C. V. 31-32-3, DATED BANGALORE, THE 9TH JANUARY 1933.

Recorded.

2. Dr. P. Parthasarathy having been transferred as Health Officer, Bangalore City, on 7th April 1932, Mr. S. D. Achar was in charge of the Institute during the rest of the year.

3. The Institute was shifted to the New Building at Hebbal on 10th March 1932.

4. The Bettahalli Kaval was closed on 22nd April 1932 and its staff was drafted on to the Institute.

5. *Anti-Rinderpest Serum.*—There was a considerable reduction in the demand within the State for Anti-Rinderpest Serum owing to a decline in the number of Rinderpest outbreaks in the State. Government are glad to note that the demand by other parts of India for the Anti-Rinderpest Serum made by the Institute is growing. The quantity of serum supplied to Coorg, Hyderabad, Baroda and Cochin States is reported to have considerably increased being thrice the quantity sold in the previous year.

6. *Other Biological Products.*—Government are glad to note that the Institute was able to undertake, during the year, the manufacture of other sera and vaccines, such as Goat Virus, Blackquarter Filtrate and Serum, Haemorrhagic Septicaemi a Serum, and Vaccine and Sheep-pox Vaccine on a large scale.

7. *Investigations.*—It is reported that experiments were continued with some definite results during the year in regard to the immunity conferred by Goat Virus against Rinderpest.

8. *Cost of Production.*—The cost of production of Serum and Virus is reported to have been slightly higher than in last year, due to the fact that the quantity manufactured was smaller.

9. *General.*—The Sira and Vaccines prepared in the Institute were exhibited in the Mysore Dasara Exhibition during October 1932. Two papers were read at the Fourth Annual Conference of the Mysore Veterinary Medical Association.

10. *Conclusion.*—The work of the Institute during the year under report was satisfactory. Government wish to place on record their appreciation of the services of Dr. P. Parthasarathy as head of the Institute.

R. RANGA RAO,
Chief Secretary to Government.

To—The Director of Agriculture in Mysore.
The Senior Surgeon in Mysore.

EXD.—P.S.R.N.

WD 1408-GPB—375—19-1-33

INTRODUCTION.

Dr. P. Parthasarathy ceased to be in charge of the Institute from 7th April 1932 when he entered upon his duties as Health Officer of Bangalore. Mr. S. D. Achar who was appointed to succeed him held charge of the Institute during the rest of the year.

The Institute moved into its new habitation near Hebbal in the month of March 1932. The buildings are well situated and are provided with all conveniences and necessary equipment, so that work can now be carried on more efficiently and under more favourable conditions than in the past.

The work of the Institute which was started primarily with the object of manufacturing Anti-Rinderpest Serum and Virus necessary for use within the State was considerably expanded during the year. Other products such as Black-quarter filtrate and Serum, Hæmorrhagic Septicæmia Serum and Vaccine, etc., were manufactured on a large scale. The cost of production of Serum and Virus was slightly higher than that of last year. This was due to the fact that the quantity manufactured was smaller, which again was due to the comparatively low incidence of Rinderpest during the year under reference. The quantity of Rinderpest Serum sold to the States of Hyderabad, Baroda, Cochin and Coorg was nearly thrice that sold during the preceding year.

Some preliminary work was done during 1930-31 on the use of the Rinderpest Virus attenuated by passage through goats for inoculating cattle against Rinderpest. As the indications were encouraging, further work was done during the year and a large number of cattle were treated by this method, with generally satisfactory results. The work will be further extended and if the use of Goat Virus should prove to be as satisfactory and efficacious as the present method of inoculation, it should be possible to effect a reduction in the cost of protecting Live Stock against Rinderpest.

I would like to take this opportunity of placing on record my deep appreciation of the services rendered by Dr. Parthasarathy. He was the first officer to be placed in charge of the Institute and on him naturally devolved the difficult task of organising everything from the beginning. There were difficulties to be faced such as unsuitable location and lack of proper facilities and equipment and to have brought it to its present state of efficiency in spite of this handicap is no mean achievement.

H. V. KRISHNAYYA,
Offg. Director of Agriculture.

V. Animals.

He-buffaloes for producing the different kinds of sera, and he-buffalo calves for obtaining Rinderpest Virus, Goats for preparing Goat Virus, Sheep for preparing Sheep-pox vaccine, and rabbits, Guinea pigs and mice for purposes of tests are the kinds of animals used in the Institute.

During the year tenders were called for the supply of buffaloes and buffalo calves and contracts were given to persons quoting most favourable rates.

VI. Reserve Depot.

This depot, where animals are kept under observation prior to use, was continued to be located in the Chattram near Sampangi tank rented out for the purpose. It is proposed to shift the Reserve Depot to the Butt-Fire Buildings, about a mile to the south of the present Institute, so as to have the animals within easy reach of the Institute.

VII. Bettahalli Kaval.

This kaval continued to be used as a Depot for used or done animals of the Institute, before their disposal, and a staff consisting of a Veterinary Inspector, a Salustry and seven cattlemen, was maintained at the Kaval for this purpose.

As this practice was found to be very expensive, and sales uncertain, the Depot was closed on 22nd April 1932 and the staff recalled as there was increased work in the Institute and the staff undermanned.

Instead, done animals are now sold to contractors on tender system, which is found to be convenient and profitable.

VIII. Epidemics in the Institute.

Except for Foot and Mouth during April 1932, there has been no untoward out-break of any epidemic among the animals in the Institute. Even in the case of out-break of Foot and Mouth, necessary measures for its control and eradication were promptly adopted without causing any dislocation of work in the Institute.

XI. Work done in the Institute.

(1) *Bactereological Section.*—The work in this section consists of (a) the manufacture and standardisation of biological products, (b) the cultural and microscopic examinations of blood and other materials, (c) conducting post-mortem examinations. The following are the statements of work done in this section:—

A.—Statement showing the biological products manufactured in the Institute during the year 1931-32.

No.	Name of product	Quantity produced	Remarks
1	Black-quarter filtrate ...	75,960 doses ...	5 c.c. a dose
2	Hæmorrhagic Septicæmia vaccine ...	27,460 „ ...	5 c.c. a dose
3	Sheep-pox vaccine ...	116.697 c.c. conc. ...	1 c.c. representing 400 doses.

B.—Statement showing the cultural and microscopic examinations of blood and other materials done during the year 1931-32.

No. of samples of virus tested for sterility.

Buffalo bull calf virus	Goat virus	Total
1,120	111	1,231

ANNUAL REPORT OF THE MYSORE SERUM INSTITUTE FOR THE YEAR 1931-32.

The primary work of the Institute consisted, as usual, of the preparation of Anti-Rinderpest Serum and Rinderpest Virus on a scale sufficiently large to meet the requirements of the Civil Veterinary Department for combating Rinderpest by the Serum-Virus-Simultaneous method of inoculation.

A noticeable feature of the year was that the Institute was able to undertake the manufacture of other Sera and Vaccines, and during the year Black-quarter Filtrate and Serum, Hæmorrhagic Septicæmia Serum and Vaccine and Sheep-pox Vaccine were prepared on a large scale and issued to the Civil Veterinary Department.

These materials were first produced on an experimental scale in 1930-31 and the results of the tests were so satisfactory that large scale production of the preparations was made possible during the year.

Goat Virus, as a single vaccine against Rinderpest, was also produced on a much larger scale than in the preceding year and further tests with it were conducted with some definite results which will be detailed in a subsequent paragraph.

II. Administration.

Dr. P. Parthasarathy was in charge of the Institute from the commencement of the year until 7th April 1932 except from 21st March 1932 to 2nd April 1932 when he was on privilege leave and during which period I held charge. On his transfer as Health Officer, Bangalore City, I have been in charge of the Institute from 7th April 1932.

During the year the post of the Assistant Superintendent vacated by me was not filled up.

Government sanctioned the appointment of an Assistant Bacteriologist during the year and Mr. P. U. Nayar, one of the officers of the Scientific Section of Civil Veterinary Department, was appointed as Assistant Bacteriologist. He took charge on 28th September 1931.

III. Staff.

The staff of the Institute consisted of :—

6 Veterinary Inspectors,
9 Salustries,
3 Laboratory Attendants,
1 Carpenter,
1 Packer,
57 Cattlemen, and
5 Clerks.

IV. Buildings.

The Institute which was located since its inception in the building adjoining the Guests' Quarters in High Grounds, near the Race Course, was shifted to the new buildings adjacent to the Hebbal Agricultural Farm on 10th March 1932.

The work of the Institute is considerably facilitated by the increased accommodation and improved equipments which have been provided for in the new buildings.

The incinerator, however, is still under construction.

The cattle sheds in the institute are at present provided with thatched roofings. These are liable to too frequent disrepair and are therefore unfit for housing cattle. Permanent cattle sheds with zinc sheet or Mangalore tile roofings are urgently needed in an Institute of this kind.

There are also no quarters for the officers or men attached to the Institute. This is another serious want and it is hoped that provision will be made for these additional requirements in due time.

No. of cultural examinations undertaken.

Plate cultures	Cultures of anærobic organisms	Total
1,179	1,135	2,314

No. of slides examined for

Protozoa	Other bacterial contaminations	Total
1,129	1,653	2,782

Of the 2,782 smears examined during the year only 726 or 26·1 per cent showed other complicating infections. The following are the particulars of examination :—

Piro	Nil	2782
Tryps	3	
Putri factive organisms ...	552	
Bipolar and other organisms ...	171	
No organisms found ...	2056	

C.—Statement showing the postmortem examinations conducted during 1931-32.

Buffalo bull calves	Goats & sheep	Buffaloes	Rabbits	Guinea pigs	Total
1,498	43	67	22	16	1,646

(2) *Virus Section.*—Buffalo bull calves were as usual used for producing Rinderpest Virus. The virus produced was sufficient to meet all the requirements of the Civil Veterinary Department. One thousand six hundred and thirty-nine calves were used this year as against 2,440 in the previous year. Only 230 calves were rejected as non-reactors *i.e.*, as not showing the clinical signs of the disease in time, whereas 600 were rejected for the same reason last year. Seven lakhs, twenty thousand and four hundred c.c. of Rinderpest Virus were produced at a total cost of Rs. 33,470-14-0 which works out at nine pies nearly per c.c. as compared with eight pies per c.c. in the previous year. While no virus was supplied to places outside Mysore in the preceding year, 1,800 c.c. of Rinderpest Virus was sold to Coorg during the present year realising therefrom a sum of Rs. 122-3-0. The following statement gives the details of virus production and the cost thereof :—

Statement showing the Rinderpest Virus produced and supplied during the year 1931-32.

Quantity of virus produced including the quantity remaining on 1st July 1931	Quantity supplied to Mysore Civil Veterinary Department	Quantity used by the Veterinary Inspectors of the Institute for experimental inoculations on Amritmahal cattle.	Quantity supplied to places outside the State	Quantity of virus used in the Institute	Quantity of virus discarded	Quantity of virus remaining on 1st July 1932	Total
7,26,725 c.c.	5,85,650 c.c.	650 c.c.	1,800 c.c.	34,800 c.c.	95,475 c.c.	8,350 c.c.	7,26,725 c.c.

Statement showing the cost of Rinderpest Virus produced and issued during the year 1931-32.

Cost of calves purchased and used during the year	Establishment charges. (Pay of the virus section, ½ of Officer's pay, (1/3 of office establishment, laboratory section and packing section)	Feeding charges (1/3 of the whole cost is taken)	Contingencies (¼ of the whole cost is taken)	Chemicals and miscellaneous glassware (1/3 of the whole cost is taken)	Travelling allowance (¼ of the whole cost is taken)	Total	Deduct receipt from the sale of done calves and carcasses	Net cost of virus
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
15,570	10,434	5,004	4,577	533	459	36,579	3,108	33,470

N.B.—Annas and pies omitted.

Thus the cost of virus per c.c. works up to a little less than nine pies as compared with eight pies of last year. The slight increase in the cost of virus is mainly due to the fall of nearly 50 per cent in the production of the virus owing to decrease in the demand for it.

(3) *Goat Virus.*—It has been known for some time that passaging of R. P. Virus through goats attenuates it to a certain degree. This knowledge was utilised to see if Goat virus alone could be used for immunising cattle against Rinderpest. Experiments in this direction were started in April 1931 in the Institute. The results seemed promising. Later, the Superintendent, Civil Veterinary Department, indented for some Goat virus from the Institute and used them with satisfactory results. The experiments were continued during the year under report. The tests were held with Goat virus in the Institute on maidan calves, buffalo calves and malnad calves and, at the instance of the Director, on 331 Amritmahal cattle at Sulekere. As a result of all these tests the following interesting indications are noted :—

(*a*) Buffaloes are very susceptible and show a severe reaction resulting in a high rate of mortality when Goat virus alone is inoculated.

(*b*) Malnad cattle, though not quite so susceptible as buffaloes, show a large number of severe reactors, a few of which may probably even succumb to it.

(*c*) Maidan cattle are the least susceptible of all, very few showing a severe reaction whereas no deaths have occurred among the animals experimented upon.

(*d*) Amritmahal cattle, considered for all practical purposes as maidan animals, have however shown a comparatively more severe reaction than maidan cattle. A few deaths also occurred among them although the death rate is hardly one per cent but further tests on other herds are to be done before any decision could be arrived as regards the extent of their susceptibility to Goat virus.

From the above it will be seen that Goat virus alone can be safely used on maidan cattle whereas in the case of buffaloes and malnad animals simultaneous inoculations with Goat virus and Anti-Rinderpest Serum may be undertaken.

The field experiments by the Civil Veterinary Department, with the Goat virus supplied from the Institute also confirm the safety of Goat virus alone for maidan cattle.

So encouraging have been these results particularly with reference to the maidan cattle that it is now proposed to start inoculations with Goat virus alone in a few maidan villages to begin with.

(4) *Anti-Rinderpest Serum.*—Owing to a decline in the number of out-breaks of Rinderpest in the State, there was a considerable reduction in the demand from the Civil Veterinary Department for this product. There were 148 unused animals on

hand at the beginning of the year. During the year 367 animals were purchased making up a total of 515 animals, of which 400 were used for the production of Anti-Rinderpest Serum as against 896 used in the previous year. Later on 10 of these were again used for preparing B. Q. Serum and 10 more for H. S. Serum. There were 78 deaths among the producers of these several sera during the year as against 75 among the Anti-Rinderpest Serum producers alone in the previous year. Four lakhs seventy-one thousand seven hundred and fifty-nine doses of Rinderpest Serum were produced during the year. At the beginning of the year, 2,84,390 doses were in stock thus making up a total of 7,56,149 doses out of which 3,10,000 doses were supplied to the Civil Veterinary Department and 2,82,550 doses were sold out to places outside Mysore such as Hyderabad, Coorg, Baroda and Cochin States as against 9,55,000 doses issued to the Civil Veterinary Department and 1,01,870 doses sold out to places outside Mysore in the preceding year. Six thousand two hundred doses were used by the Officers of the Institute, in the Institute itself, and on Amritmahal herds and 42,999 doses of old and otherwise contaminated serum were discarded after tests as against 14,514 doses used in the Institute and on Amritmahal herds and 38,196 doses of contaminated serum in the preceding year. The balance of Anti-Rinderpest Serum on hand at the end of the year was 1,14,400 doses. The following statements give the details of Anti-Rinderpest Serum production and the cost thereof.

Statement showing the Anti-Rinderpest Serum produced and supplied during the year 1931-32.

Quantity of Anti-Rinderpest Serum in stock on 1st July 1931	Quantity of serum produced during the year	Total	Quantity of serum supplied to the Mysore Civil Veterinary Department	Quantity of Serum used by the Veterinary Inspectors of the Institute for experiments on Amrit-Mahal cattle	Quantity of serum supplied to places outside the State	Quantity of serum discarded as old or otherwise contaminated	Quantity of serum used in the Institute	Quantity of serum remaining on 1st July 1932	Total
2,84,390 doses	4,71,759 doses	7,56,149 doses	3,10,000 doses	2,000 doses	2,82,550 doses	42,999 doses	4,200 doses	1,14,400 doses	7,56,149 doses

Statement showing the cost of Anti-Rinderpest Serum produced and issued during the year 1931-32.

Cost of buffaloes, etc., purchased and used	Establishment charges (pay of serum section half of Officer's pay, two-thirds of office establishment, Laboratory section and packing section)	Feeding charges (two-thirds of the whole cost is taken)	Contingencies (half of the whole cost is taken)	Chemicals and miscellaneous glassware (two-thirds of the whole cost is taken)	Travelling allowance (half of the whole cost is taken)	Total cost of Anti-Rinderpest serum H. S. Serum H. S. Vaccine B. Q. F. B. Q. Serum and Sheep-pox vaccine	Deduct receipt from the sale of done buffaloes and carcasses	Deduct receipt from the probable realisable amount by the sale of used animals	Net cost of Anti-Rinderpest Serum including the cost of other sera and vaccines
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
14,454	25,795	10,008	4,577	1,396	459	56,691	3,071	787	52,832

N. B.—Annas and pies omitted.

Four lakhs seventy-one thousand, seven hundred and fifty-nine doses of Rinderpest Serum and 1,63,811 doses of other sera and vaccines were produced at a total cost of Rs. 52,832-11-8 working at Re. 0-1-4 nearly per unit dose of respective products as against Re. 0-1-1 per dose of Anti-Rinderpest Serum alone during the previous year.

This increase in the cost is mainly due to the decrease in the quantity of Anti-Rinderpest Serum produced during the year on account of the decrease in the demand for the same from the Civil Veterinary Department and, to a certain extent, to the initial cost incurred in preparing other sera and vaccines.

The sale of 2,82,850 doses of Anti-Rinderpest Serum alone to places outside the State amounted to Rs. 53,653 as against Rs. 19,657-13-0 in the previous year. The net cost of sera and vaccines prepared in the Institute during the year amounted as stated above to Rs. 52,832-11-8 only.

Thus it will be seen that the amount from sales has slightly exceeded the actual cost incurred for preparing sera and vaccines during the year under review.

(5) *Hæmorrhagic Septicæmia Vaccine.*—Twenty-seven thousand four hundred and sixty doses of this vaccine were prepared and 21,500 doses of it were issued to the Civil Veterinary Department as against 1,790 doses prepared and issued to the Department in the previous year.

(6) *Anti-Hæmorrhagic Septicæmia Serum.*—Five thousand nine hundred and eighty-two doses of Anti-Hæmorrhagic Septicæmia serum were produced for the first time and 5,500 doses were supplied to the Civil Veterinary Department during the year.

(7) *Anti-Blackquarter Serum.*—Seven thousand eight hundred and nine doses of Anti-Black-quarter Serum were produced and 6,087 doses were supplied to the Department during the year.

The animals discontinued from Rinderpest Serum production were later on immunised and used for B. Q. and again for H. S. Serum production.

(8) *Black-Quarter Filtrate.*—At the commencement of the year field tests with B. Q. filtrate prepared in the Institute was undertaken in six villages of Bangalore Taluk in collaboration with the Superintendent, Civil Veterinary Department, and nearly 1,000 animals were inoculated with satisfactory results and a large scale of manufacture of B. Q. filtrate for supply was undertaken during the year.

Seventy-five thousand nine hundred and sixty doses of Blackquarter filtrate were prepared during the year as against *490 doses prepared* experimentally *last year*. Sixty-two thousand, seven hundred and seventy doses were supplied to the Civil Veterinary Department during the year.

Occasionally, some reports were received of a small percentage of break-downs in immunity among the inoculated animals. The Superintendent, Civil Veterinary Department, was requested to instruct the Veterinary Inspectors to use both Serum and Filtrate together, in the presence of out-breaks, to prevent the animals contracting the disease during the negative phase. A second reinforcing dose of the Filtrate, about a week after the first inoculation, as is recommended in the case of Black-quarter Aggressin, was tried on the Farm, and dairy animals of the Hebbal Agricultural Farm and this method is proposed to be recommended for general adoption for further safety and to prevent even the few sporadic cases such as have been sometimes noticed among the inoculated.

(9) *Sheep-Pox Vaccine.*—Forty-six thousand six hundred doses of this vaccine were prepared and 30,700 doses were supplied to the Civil Veterinary Department during the year.

X. The following are the details as to the cost of Sera and Vaccines supplied to the Civil Veterinary Department during the year at the rates approved for sale to places outside the State:—

Name of product	Quantity supplied during 1931–32	Cost of product at the approved rate		
	Doses	Rs.	a.	p.
Anti-Rinderpest Serum	3,10,000	59,106	10	8
Rinderpest Virus	5,85,650	36,603	2	0
Anti-Hæmorrhagic Septicæmia Serum	5,500	2,106	6	8
Anti-Black-quarter Serum	6,087	2,330	2	0
Hæmorrhagic Septicæmia Vaccine	21,300	4,031	4	0
Blackquarter Filtrate	62,770	15,692	8	0
Sheep-pox Vaccine	30,700	115	2	0
	Total Rs. ...	1,19,985	3	4

The statistical statements of all the products giving full details as to the quantity produced, supplied and balance remaining for the year 1931-32 are appended to this report.

Out of Rs. 1,10,390 sanctioned by Government for expenditure during 1931-32 a sum of Rs. 1,241 was reappropriated by the Agricultural Department proper and only Rs. 1,04,939 was actually spent saving Rs. 4,209-2-4 in the budget grant. Against this amount of Rs. 1,04,939 spent actually during the year, the cost of all the products supplied to the Civil Veterinary Department and to places outside the State at the approved rates together with the amount realised by the sale of done animals, carcasses, manure, etc., and the cost of the stock of all the products and animals remaining at the beginning of the current year would amount to Rs. 2,04,000.

XI. General.

The Sera and Vaccines prepared in the Institute were exhibited during the All-India Dasara Exhibition held during October in Mysore.

A paper on "The present methods of preparation of the several Sera and Vaccines" was read by me at the Fourth Annual Conference of the Mysore Veterinary Medical Association and another on "The Principles of Immunity" by Mr. P. U. Nayar, the Assistant Bacteriologist.

Mr. K. Ranganatha Rao, Assistant Superintendent, Scientific Section of the Civil Veterinary Department was provided with Laboratory facilities, required for his research work, in accordance with the orders of the Government in the matter. He has also been rendering very valuable assistance in the work of the Institute.

I beg leave to place on record the valuable work of Dr. P. Parthasarathy to whom, more than to anyone else, the Institute owes its present efficiency and usefulness. I am grateful to the Live Stock Expert in Mysore, Bangalore, and the Superintendent, Civil Veterinary Department, Bangalore, for their cordial co-operation on all occasions, and my thanks are due to the Agricultural Engineer and the Senior Artist attached to the Office of the Director of Agriculture, for the help they rendered us.

In concluding, I wish to record my appreciation of the work done during the year by the whole staff of the Institute, executive as well as ministerial, who had often to work overtime to cope with the increasing work in the Institute.

S. D. ACHAR,

Officer-in-charge, Mysore Serum Institute.

STATEMENT 1.

Statement showing the quantity of Anti-Rinderpest Serum produced, supplied and balance remaining for the year 1931-32.

Month	Balance at the beginning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of Serum used in the Institute including wastage	Total	Stock of Serum on the last day of the month
				Civil Veterinary Department	Outside the State			
July 1931	2,84,390 doses	78,062 doses	3,62,452 doses	...	50 doses	2,515 doses	2,565 doses	3,59,887 doses
August ,, ...	3,59,887 ,,	61,412 ,,	4,21,299 ,,	...	10,000 ,,	...	10,000 ,,	4,11,299 ,,
September ,, ...	4,11,299 ,,	...	4,11,299 ,,	...	20,000 ,,	...	20,000 ,,	3,91,299 ,,
October ,, ...	3,91,299 ,,	...	3,91,299 ,,	...	10,000 ,,	...	10,000 ,,	3,81,299 ,,
November ,, ...	3,81,299 ,,	...	3,81,299 ,,	95,000 doses	15,100 ,,	...	1,10,100 ,,	2,71,199 ,,
December ,, ...	2,71,199 ,,	...	2,71,199 ,,	25,000 ,,	40,000 ,,	...	65,000 ,,	2,06,199 ,,
January 1932	2,06,199 ,,	25,848 ,,	2,32,047 ,,	15,000 ,,	10,600 ,,	1,700 ,,	27,300 ,,	2,04,747 ,,
February ,, ...	2,04,747 ,,	1,71,572 ,,	3,76,319 ,,	25,000 ,,	26,300 ,,	...	51,300 ,,	3,25,019 ,,
March ,, ...	3,25,019 ,,	...	3,25,019 ,,	25,000 ,,	63,000 ,,	2,000 ,,	90,000 ,,	2,35,019 ,,
April ,, ...	2,35,019 ,,	...	2,35,019 ,,	25,000 ,,	46,500 ,,	25,669 ,,	97,169 ,,	1,37,850 ,,
May ,, ...	1,37,850 ,,	...	1,37,850 ,,	75,000 ,,	11,000 ,,	1,800 ,,	87,800 ,,	50,050 ,,
June ,, ...	50,050 ,,	1,34,865 ,,	1,84,915 ,,	25,000 ,,	30,000 ,,	15,515 ,,	70,515 ,,	1,14,400 ,, (5 c. c. a dose).
		*4,71,759 ,,	7,56,149 ,,	8,10,000 ,,	2,82,550 ,,	49,199 ,,	6,41,749 ,,	

STATEMENT 2.

Statement showing the quantity of Anti-Haemorrhagic Septicæmia Serum produced, issued and balance remaining for the year 1931-32.

Month	Balance at the beginning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of Serum used in the Institute including wastage	Total	Stock of Serum on the last day of the month
				Civil Veterinary Department	Places Outside the State			
July 1931	...	...	...	...	...	...	...	...
August ,, ...	...	...	...	...	...	...	...	...
September ,, ...	...	...	...	...	...	...	...	...
October ,, ...	...	...	...	...	...	...	...	...
November ,, ...	...	...	...	...	...	...	...	...
December ,, ...	...	...	...	...	...	...	...	...
January 1932	...	...	...	...	...	...	...	...
February ,, ...	...	4,444 doses	...	...	...	...	...	4,444 doses
March ,, ...	4,444 doses	6,794 ,,	11,238 doses	...	...	...	...	11,238 ,,
April ,, ...	11,238 ,,	4,431 ,,	15,669 ,,	...	...	...	...	15,669 ,,
May ,, ...	5,223 ,, (This balance quantity has been taken at 15 c. c. a dose, whereas the previous months at 5 c. c. a dose).	759 ,, (15 c. c. a dose)	5,982 ,,	2,000 doses	...	229 doses	2,229 doses	3,753 ,,
June ,, ...	3,753 doses	...	3,753 ,,	3,500 ,,	...	...	3,500 ,,	253 ,, (15 c. c. a dose)
		5,982 ,,	5,982 ,,	5,500 ,,	...	229 doses	5,729 ,,	

S. D. ACHAR,
Officer-in-charge, Mysore Serum Institute.

STATEMENT 3.

Statement showing the Quantity of Anti-Black-quarter Serum produced, issued and balance remaining for the year 1931-32.

Months	Balance at the beinning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of serum used in the Institute including wastage	Total	Stock of serum on the last day of the month
				Civil Viterinery Department	Places outside the State			
July 1931	...	...	...	...	...	...	...	...
August ,,	...	23,428 doses (5 c. c. a dose)	23,428 doses	...	...	...	...	23,428 doses
September ,,	23,428 doses	...	23,428 ,,	...	...	...	...	23,428 ,,
October ,,	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
November ,,	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
December ,,	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
January 1932	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
February ,,	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
March ,,	23,428 ,,	...	23,428 ,,	...	...	...	...	23,428 ,,
April ,,	23,428 ,,	...	23,428 ,,	260 doses (5 c. c. a dose)	...	3,378 doses (5 c. c. a dose)	3,638 doses (5 c. c. a dose)	19,790 ,,
May ,,	6,596 ,, (Taken at 15 c. c. a dose whereas in previous months at 5 c. c. a dose)	...	6,596 ,, (15 c. c. a dose)	5,000 doses (15 c. c. a dose)	...	...	5,000 doses	1,596 ,, (15 c. c. a dose)
June ,,	1,596 doses (15 c. c. a dose)	...	1,596 doses	1,000 doses	...	...	1,000 doses	596 doses (15 c. c. a dose)
		7,809 doses (15 c. c. a dose)	7,809 doses	6,087 doses	...	1,126 doses	7,213 doses	...

STATEMENT 4

Statement showing the Quantity of Hæmorrhagic Septicæmia Vaccine prepared, issued and balance remaining for the year 1931-32.

Months	Balance at the beginning of the mouth	Quantity produced during the month	Total	Quantity supplied to		Quantity of vaccine used in the Institute including wastage	Total	Stock of serum on the last day of the month
				Civil Veterinary Department	Places outside the State			
July 1931	...	3,070 doses	3,070 doses	...	...	...	...	3,070 doses
August ,,	3,070 doses	4,080 ,,	7,150 ,,	2,000 doses	...	70 doses	2,070 doses	5,080 ,,
September ,,	5,080 ,,	...	5,080 ,,	3,000 ,,	...	...	3,000 ,,	2,080 ,,
October ,,	2,080 ,,	...	2,080 ,,	...	...	...	...	2,080 ,,
November ,,	2,080 ,,	4,430 doses	6,510 ,,	4,500 doses	...	...	4,500 doses	2,010 ,,
December ,,	2,010 ,,	...	2,010 ,,	...	...	...	...	2,010 ,,
January 1932	2,010 ,,	...	2,010 ,,	...	...	530 doses	530 doses	1,480 ,,
February ,,	1,480 ,,	...	1,480 ,,	1,480 doses	...	...	1,480 doses	...
March ,,	...	3,570 doses	3,570 ,,	520 ,,	...	...	520 ,,	3,050 doses
April ,,	3,050 doses	2,990 ,,	6,040 ,,	...	...	70 doses	70 ,,	5,970 ,,
May ,,	5,970 ,,	...	5,970 ,,	5,000 doses	...	...	5,000 ,,	970 ,,
June ,,	970 ,,	9,320 doses	10,290 ,,	5,000 ,,	...	...	5'000 ,,	5,290 ,, (5 c. c. a dose)
		27,460 doses	27,460 doses	21,500 doses	...	670 doses	22,170 doses	...

S. D. ACHAR,

Officer-in-charge, Mysore Serum Institute.

STATEMENT 5.

Statement showing the quantity of Blackquarter Filtrate prepared, issued and balance remaining for the year 1931-32

Month	Balance at the beginning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of Filtrate used in the Institute including wastage	Total	Stock of Filtrate on the last day of the month
				Civil Veterinary Department	Places outside the State			
July 1931	490 doses	700 doses	1,190 doses	...	...	...	...	1,190 doses
August ,,	1,190 ,,	2,087 ,,	3,277 ,,	500 doses	...	2,737 doses	3,237 doses	40 ,,
September ,,	40 ,,	8,386 ,,	8,426 ,,	...	...	5,795 ,,	5,795 ,,	2,631 ,,
October ,,	2,631 ,,	1,950 ,,	4,581 ,,	3,680 ,,	...	731 ,,	4,411 ,,	170 ,,
November ,,	170 ,,	12,310 ,,	12,480 ,,	1,650 ,,	...	...	1,650 ,,	10,830 ,,
December ,,	10,830 ,,	20,097 ,,	30,927 ,,	10,000 ,,	...	...	10,000 ,,	20,927 ,,
January 1932	20,927 ,,	...	20,927 ,,	...	...	...	...	20,927 ,,
February ,,	20,927 ,,	15,600 ,,	36,527 ,,	25,000 ,,	...	20 ,,	25,020 ,,	11,507 ,,
March ,,	11,507 ,,	...	11,507 ,,	...	...	...	...	11,507 ,,
April ,,	11,507 ,,	5,970 ,,	17,477 ,,	14,060 ,,	...	537 ,,	14,597 ,,	2,880 ,,
May ,,	2,880 ,,	...	2,880 ,,	2,880 ,,	...	...	2,880 ,,	
June ,,	...	8,860 ,,	8,860 ,,	5,000 ,,	...	10 ,,	5,010 ,,	3,850 ,, (5 c.c. a dose)
		75,900 ,,	76,450 ,,	62,770 ,,	...	9,830 ,,	72,600 ,,	

STATEMENT 6.

Statement showing the quantity of Sheep-pox Vaccine prepared, issued and balance remaining for the year 1931-32.

Month	Balance at the beginning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of vaccine used in the Institute including wastage	Total	Stock of vaccine on the last day of the month
				Civil Veterinary Department	Places outside the State			
July 1931	...	...	...	...	...	...	...	...
August ,,	...	...	...	...	...	...	...	...
September ,,	...	...	...	...	...	...	...	...
October ,,	...	...	...	...	...	...	...	...
November ,,	...	...	...	...	...	...	...	...
December ,,	...	49·791 c.c.	49·791 c.c.	33	...	3·5 c.c.	36·5 c.c.	13·291 c.c.
January 1932	13·291 c.c.	...	13·291 ,,	...	...	...	...	13·291 ,,
February ,,	13·291 ,,	19·500 ,,	32·791 ,,	18 c.c.	...	11 ,,	29 ,,	3·791 ,,
March ,,	3·791 ,,	11·750 ,,	15·541 ,,	10·5 ,,	...	...	10·5 ,,	5·041 ,,
April ,,	5·041 ,,	35·655 ,,	40·696 ,,	7·75 ,,	...	...	7·75 ,,	32·946 ,,
May ,,	32·946 ,,	...	32·946 ,,	3 ,,	...	5 c.c.	3·5 ,,	29·446 ,,
June ,,	or 13,175 doses 29·446 c.c. or 11,775 doses	...	or 13,175 doses 29·446 c.c. or 11,775 doses	or 1,200 doses 4·500 c.c. or 1, 800 doses	...	or 200 doses ...	or 1,400 doses 4·500 c.c. or 1,800 doses	or 11,775 doses 24·945 c.c. or 9,975 doses
		116·696 ,,	116·696 c.c.	76·75 c.c.	...	15·0 c.c.	91·750 c.c.	

S. D. ACHAR,

Officer-in-charge, Mysore Serum Institute.

STATEMENT 7.

Statement showing the quantity of Rinderpest Virus prepared, issued and balance remaining for the year 1931-32.

Month	Balance at the beginning of the month	Quantity produced during the month	Total	Quantity supplied to		Quantity of virus used in the Institute including discarded and wastage	Total	Stock of virus on the last day of the month
				Civil Veterinary Department	Places outside the State			
July 1931	253 ozs.	3,977 ozs.	4,230 ozs.	2,998 ozs.	.....	985 ozs.	3,983 ozs.	247 ozs.
August ,, ...	247 ,,	2,044 ,,	2,291 ,,	1,907 ,,	.....	208 ,,	2,115 ,,	176 ,,
September ,, ...	176 ,,	2,314 ,,	2,490 ,,	1,725 ,,	.....	628 ,,	2,353 ,,	137 ,,
October ,, ...	137 ,,	1,877 ,,	2,014 ,,	1,565 ,,	.....	387 ,,	1,952 ,,	62 ,,
November ,, ...	62 ,,	2,804 ,,	2,866 ,,	2,173 ,,	4 ozs.	249 ,,	2,426 ,,	440 ,,
December ,, ...	440 ,,	2,975 ,,	3,415 ,,	2,855 ,,	.....	462 ,,	3,317 ,,	98 ,,
January 1932	98 ,,	2,380 ,,	2,478 ,,	2,056 ,,	.....	260 ,,	2,316 ,,	162 ,,
February ,, ...	162 ,,	1,356 ,,	1,518 ,,	1,317 ,,	24 ozs.	155 ,,	1,496 ,,	22 ,,
March ,, ...	22 ,,	1,950 ,,	1,972 ,,	1,574 ,,	26 ,,	284 ,,	1,884 ,,	88 ,,
April ,, ...	88 ,,	1,765 ,,	1,853 ,,	1,354 ,,	12 ,,	374 ,,	1,740 ,,	113 ,,
May ,, ...	113 ,,	2,493 ,,	2,606 ,,	1,907 ,,	.....	357 ,,	2,264 ,,	342 ,,
June ,, ...	342 ,,	2,881 ,,	3,223 ,,	2,021 ,,	6 ,,	862 ,,	2,889 ,,	334 ,, or 8,350 c.c.
		29,069 ozs. or 7,26,725 c.c.		23,452 ozs. or 5,82,300 c.c.	72 ozs. or 1,800 c.c.	5,211 ozs. or 1,30,275 c.c.	28,735 ozs. or 7,18,375 cc.	

WD 822—GPB—150—23-12-32

S. D. ACHAR,
Officer-in-charge,
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